

SPECIFICATION AMENDMENTS:

Please replace the paragraph at lines 3 - 10 on page 2 with the following:

Because of their ability to simulate the apparently oscillatory nature of brain neurons, oscillatory neural network computers are among the more promising types of neural network computers. Simply stated, the elements of an oscillatory neural network computer ~~consist of~~ includes oscillators ~~rather than amplifiers or switches~~. Oscillators are mechanical, chemical or electronic devices that are described by an oscillatory signal (periodic, quasi-periodic, almost periodic function, etc.) Usually the output is a scalar function of the form $V(\omega t + \phi)$ where V is a fixed wave form (sinusoid, saw-tooth, or square wave), ω is the frequency of oscillation, and ϕ is the phase deviation (lag or lead).

SMC 5/11/0007 Please replace the paragraph at lines 15 - 30 on page 5 with the following:

FIG. 2 schematically illustrates an embodiment of a weighting circuit ($C_{1,1}$, $C_{1,2}$, ..., $C_{N,N}$) in accordance with the present invention. In this embodiment, weighting circuits $C_{1,1}$, $C_{1,2}$, ..., $C_{N,N}$ comprise a linear amplifier 23 having an input terminal connected to a respective output terminal OUT_1 , OUT_2 , ..., OUT_{N-1} , OUT_N . An output terminal of linear amplifier 23 is connected to an input terminal of phase shift circuit 24. An output terminal of phase shift circuit 24 is connected to a corresponding adder circuit 31. The output signal appearing on the output terminal of phase shift circuit 24 is given by:

$$[[V(\theta) =]] S_{kj} * V(\theta + \psi_{kj}) \quad (1)$$

where

S_{kj} is the connection strength (gain) of weighting circuit C_{kj} as provided by its linear amplifier 23; and

ψ_{kj} is the phase shift introduced by phase shift circuit 24 of the weighting circuit.